

On the Matrix in Self-fluxing Sinter, by
S. Watanabe.

JAPANESE, per, Tetsu to Hagane, Vol 45, 1969, pp 913-915.

*BISI 7879

Sci-Materials
Jan 70

Solubility of Nitrogen in Liquid Stainless
Steel, by T. Takei.

JAPANESE, per, Tetsu to Hagane, Vol 46,
Sept 1969, pp 1299-1301.

*BISI 7878

Sci-Materials

Jan 70

Influence of the Flow Rate of Gas on the
Rate of Reaction Between Molten Iron and
Gas, by K. Ito,
JAPANESE, per. Tetsu-to-Hagane, Vol 55,
No 1, 1969, pp 13-19.
BISI 7739

Sci/Mat
Sep 70

Surfacing Velocity and Coalescence of Primary
Silicon Oxidation Products in the Quiet Iron
Bath, by S. Kobayashi, H. Nishimura.

JAPANESE, per, Tetsu to Hagane, Vol 55, No 1,
1969, pp 20-26.

AB 7915

sci/ materials
nov 69

395,423

Anisotrppic Behavior of Prestrained Sheet Steels
and Subsequent Formability, by K. Yonshida, et al.
JAPANESE, par, Tatsu-to-Hagane, Vol 55, Jan 1969,
pp 26-47.
BISI 7499

Sci-Mat
June 70

Oxygen Converter/DM (duo vortical Mixing)
Steelmaking. By K. Harita, et al.
JAPANESE , per, Tetsu-to Hagane, Vol. 55
Jan. 1969, pp. 59-68
DISI 7647

Sci/meth
Dec 69

398,770

Oxide Inclusions in Aluminum-Deoxidized
18-8 Stainless Steel, by T. Fukuyama,
K. Sagawa.
JAPANESE, per, Tetsu to Hagane, Vol 55,
No 2, 1969, pp 39-44.
HB 7756

Sci-Mat
June 69

383,277

Change in the Slay Composition in Tobata No.1 B.P.
by H. Sasaki, T. Nakazawa.

JAPANESE, FOR, Tobata to Haguro, Vol 55, No 2,
1969, pp 101-111.

BEST 7534

sci/ materials
nov 69

396,958

The Change of Properties of the Charge Materials
in a Blast Furnace Shaft, by T. Nakazawa and
M. Sasaki,
JAPANESE, per. Tetsu-to-Hagane, Vol 55, 1969,
pp 112-122.
BISI 7535

Sci/Mat
Mar 70

404,197

Effect of Zinc Crystal Orientation of the
Corrosion of Tinfoil, by H. Asano and Oyagi,
JAPANESE, per. Tetsu-to-Hagane, Vol 55, No. 2,
1969, pp 184-189,
*BISI 7944

Sci/Mat
Mar 70

A Study on the Determination of Low Contents of
Carbon in Steels by Non-aqueous Titration,
by K. Gotohara, et al.

JAPANESE, per, Iron-to-Steel, Vol 55, No 2,
1969, pp 196-203.

BICI 7682

sci/materials
feb 70

402,654

**On Fluorescent X-Ray Analysis of Phosphorus and
Sulphur in Steels, by T. Adachi.
JAPANESE, per, Tetsu-to-Hagane, Vol 55, Feb 1969,
pp 203-209.
BISI 7504**

**Sci-Mat
Jul 70**

Study on Determination of Low-Content of Carbon
in Steels by Non-Aqueous Titration, by

K. Kawamura, et al.

JAPANESE, per, Tetsu-to-Hagane, Vol 55, No 2,
1969, pp 209-215.

*RI: 7682

sci/ materials

nov 69

Determination of Mn, Cu, Ni, Cr, Mo, V, Ti and
Al in Steel by Atomic Absorption Sepctro-
photometry, by Y. Endo.

JAPANESE, per, Tatsu-to-Hagane, Vol 55, 1969,
Feb, pp 216-221.

BISI 7885

Sci-Mat
Nov 70

Effect of Decoxidants on the Machinability of
Steel, by T. Araki and S. Yamamoto,
JAPANESE, per. Tetsu-to-Hagane, Vol 55, No 3, 1969.
HB 8004

Sci/Nat
May 70

**Rapid Determination of Nitrogen in Steel by Fusion
with an Oxidizing Agent and Measurement of Thermal
Conductivity, by S. Sato and K. Tate,
JAPANESE, per. Tetsu-to-Hagane, Vol 55, No 3, 1969.
HB 8105**

**Sci/Mat
May 70**

Some Views About Properties of the Interior of 20-ton
Ton Carbon Steel Ingots, by K. Marita,
JAPANESE, par. Tetsu-to-Hagane, Vol 55, No 3, 1959.
HB 7792

Sci/Mat
May 70

Mechanism of Deoxidation [of Liquid Iron] with
Silicon and Formation of Silica Inclusions
During Solidification, by T. Sasai, et al.
JAPANESE, par, Tetsu to Hagane, Vol 55, No 3,
Lecture 74 p 3 74. 1969
HB 7850

sci/materials
feb 70

402,730

Effect of Rotary Vibration on the Solidification
Structure of (Steel) Ingots, by Y. Sakamoto, et al.
JAPANESE, per, Tatsu-to-Hagane, Vol 55, No 3,
Paper 84, 1969, pp S84,
HB 7852

Sci-Mat
June 70

Method of Cooling Basic Oxygen Furnace Lances and
Their Nozzles, by K. Kunioka, T. Tada.

JAPANESE, per, Tetsu-to-Hagane, Vol 55, 1969,
No 3, Lecture 88, p S88.

HB 7881

Sci-Mat
June 70

Installation of an Auxiliary Lance on the Basic
Oxygen Furnace, by Y. Nagano, et al.

JAPANESE, per, Tetsu-to-Hagane, Vol 55, No 3,
Lecture 89, 1969, p S89.

HB 7887

Sci-Mat

June 70

Effect of Lance Height in Basic Oxygen
Furnace Blowing, Part IV of 'A Study of
BOF Blowing', by K. Akamatsu,
JAPANESE, per. Tetsu-to-Hagane, Vol 55,
No 3, 1969, paper 90, p S 90.
HB 7886

Sci/Mat
Sep 70

Apparatus for the Measurement of Slooping
and its Application in the Basic Oxygen
Furnace, by K. Kunioka,
JAPANESE, per. Tetsu-to-Hagane, Vol 55, No 3,
1969, Lecture 93, p S 93.
HB 7894

Sci/Mat
Sep 70

Automatic Charging of Addition Materials
in the Basic Oxygen Furnaces, by
Y. Shimazaki,
JAPANESE, per. Tetsu-to-Hagane, Vol 55,
No. 3, 1969, Lecture 96, p S 96.
HB 7893

Sci/Mat
Sep 70

On the Desulfurization Reaction During the Refining
of Stainless Steel (In the Arc Furnace). Part I.

by T. Fukuyama, et al.

JAPANESE, par, Tetsu-to-Hagane, Vol 55, No 3,
Lecture 118, 1969, p S118.

HB 7924

Sci-Mat

June 70

Injection of Inert Gases into Alloy Steel Paths,
by Y. Sasajima,
JAPANESE, per. Tetsu-to-Hagane, Vol 55, No 3, 1969,
Lecture 136.
HB 8010

Sci/Mat
May 70

Mechanism of Formation of Macroscopic Inclusions
in Killed Steel. 5. The Freezing Process of Killed
Steel, by E. Nomura.

JAPANESE, per, Tetsu-to-Hagane, Vol 55, No 3,
1969, p. 139

CRL/D 835

1/20/70 5190 2

sci-mat

aug 69

390,181

The Effect of Dolomite in the Basic Oxygen LD
Process, Part I of Viscosity of BOF LD Slag and
Improved Desulfurization by Addition of MgO ,
by Y. Onoda,
JAPANESE, per. Tetsu-to-Hagane, Vol 55, No 3, 1969,
Lecture 155,
HB 8006

Sci/Mat
May 70

Influence of the Line Quality Upon the Basic
Oxygen Process, by H. Mizutani, et al.
JAWAISEI, per, Ietsu to Kagaku, Vol 55, No 3,
1969, lecture 156, p 156
IB 8007

sci/materials;
Feb 70

402,705

Effect of Small Amounts on Carbon and Nitrogen and
of the Grain Size Upon Stress Corrosion of Stain-
less Steel, by S. Fujiyama,
JAPANESE, per. Tetsu-to-Hagane, Vol 55, No 3, 1969,
Lecture 219.
HB 8009

Sci/Mat
May 70

High-Silicon Stainless Cast Steel,
by K. Ohta,
JAPANESE, per. Tetsu-to-Hagane, Vol 55,
No 3, 1969, Lecture 222, p S 222.
HB 8008

Sci/Mat
Sep 70

Mechanical Properties of Nitrogen-Alloyed
0.03% C, 17% Cr, 14% Ni, 2.5% Mo Stainless
Steel, by K. Yokota,
JAPANESE, per. Tetsu-to-Hagane, Vol 55,
No 3, 1969, Lecture 242, p S 242.
HB 7874

Sci/Mat
Sep 70

Effect of Ti-O-V and Ti-O-B upon the Creep
Rupture Strength of Austenitic 18% Cr, 6% Ni,
8% Mn Steel, by R. Kinoshita, et al.
JAPANESE, for, Setsu to Hagane, Vol 55, No 3,
1969, Lecture 246, p S 246.
MB 8005

sci/materials
feb 70

402,706

Impact Properties of Stainless Clad Steels,
Part VI of 'A Study of Steel for Nuclear
Reactor Pressure Vessels', by M. Sano,
JAPANESE, per. Tatsu-to-Hagane, Vol 55, No 3,
1969, Lecture 267, p S267.
HB 8013

Sci/Mat
Feb 71

Effect of duplex grains on the low-temperature
Impact Strength [of Steel], by T. Onozoto,
K. Okada.
JAPANESE J. FOR, Atom to Haimo, Vol 55, no 3,
1969, picture 269, p 279.
BB 8014

sci/materials:
rel 70

402,703

Development of an Automatic Fluorescent Magnetic
Particle-Testing Device for Square-Section Billets,
by H. Suzuki, et al.

JAPANESE, per, Tatsu-to-Hagane, Vol 55, No 3,
Lecture 271, 1969, p S271.

HB 8016

Sci-Mat

June 70

KAWAI, Y. and others. Determination of oxygen in liquid steel by an electrochemical method.

Tetsu-to-Hagane 55(3):S279 Lecture 279 (1969)
(CRL/T.4194x)

Technical Review on the Continuous Casting of
Steel - present and Future Trend, by Y. Shimokawa.
JAPANESE, per, Tetsu-to-Hagane, Vol 55, No 4,
1969, pp 298-325.
*BISI 8312

Sci-Mat
June 70

The Necessity for Systematic Management Control,
by M. Yanaki.

JAPANESE, per, Tetsu-to-Hagane, Vol 55, No 5,
1969, pp 345-346.

BISI 7590

sci/materials

jan 70

399,928

The Infrared Camera and Its Application to the
Steel Industry, by J. Ohno and R. Kusaka,
JAPANESE, per. Tetsu-to-Hagane, Vol 55, May ,
1969, pp 512-517,
BISI 7800

Influence of Hydrogen on the Stress Corrosion of
Austenitic Stainless Steel, by H. Yanaka.

JAPANESE, for, Tetsu-to-Hagane, Vol 55, No 7,
1969, pp 40-52.

*HB 7937

sci/ materials
nov 69

Effect of Hydrogen on Stress Corrosion Cracking of
Austenitic Stainless Steel, by R. Tanaka,
JAPANESE, par. Tetsu-to-Hagane, Vol 55, No 7, 1969,
pp 576-588.
HB 7937

Sci/Mat
May 70

**Study of Mineralogical and Metallurgical Properties
of Synthetic Calcium Ferrite, by K. Kojima, et al.
JAPANESE, per, Tetsu-to-Hagane, Vol 55, July 1969,
pp 669-681.
BISI 7617**

Sci-Nat
June 70

Impurity Elimination Performance and Operating Conditions in Various Contacting Methods Between Slag and Metal, by A. Moriyama, JAPANESE, per. Tetsu-to-Hagane, Vol 55, No 9, 1969, pp 777-788.
BISI 8671

June 71

Application of Oxygen Concentration Cells to
Kinetic Study of Heterogeneous Reactions at
Elevated Temperature, by K. Goto,
JAPANESE, per. Tetsu-to-Hagane, Vol 55, Oct.,
1969, pp 1007-1029.
BISI 7981

Jun 701

Differential Thermal Analysis of Nonmetallic
Inclusions, Part IV of A Study of Nonmetallic
Inclusions Using Synthetic Oxides, by T. Shiraiwa,
JAPANESE, per. Tetsu-to-Hagane, Vol 55, No 11,
1969.
HB 8121

Sci/Mat
May 70

On the Decaridation of Steel with Calcium Silicide
Under a High-Pressure Argon Atmosphere, Part VIII
of Study of Decaridation with Complex Decaridizers,
by H. Okamura,
JAPANESE, per. Tetsu-to-Hagane, Vol 55, No 11,
1969.
HB 8140

Sci/Mat
May 70

Reduction Mechanism of Iron-Ore Pellets Containing
Solid Reductants, Part V of Study of Pre-Reduced
Iron-Ore Pellets, by K. Kamiya,
JAPANESE, par. Tetsu-to-Hagane, Vol 55, No 11,
1969,
HB 8058

Sci/Mat
May 70

Note on the Advantages of Large Blast Furnaces,
by M. Higuti, K. Shiobara.
JAPANESE, per, Tetsu-to-Hagana, Vol 55, No 11,
Lecture 8, 1969, p S398.
HB 8054

Sci-Mat
June 70

Reduction of Magnetite Pellets, Part I,
by H. Ree,
JAPANESE, per. Tetsu-to-Hagane, Vol 55,
No 11, 1969, Lecture 24, p S 414.
HB 8057

Sci/Mat
Sep 70

Softening of Reduced Pellets Under Load,
by T. Yagi,
JAPANESE, per. Totsu-to-Hagane, Vol 55, No 11, 1969,
Lecture 27.
HB 8056

Sci/Mat
May 70

Effect of Suction on the Hot Strength of Iron-Ore
Sinter, by H. Soma, M. Kinoshita.

JAPANESE, par, Tetsu-to-Hagane, Vol 55, No 11,
Lecture 48, 1969, p S438.

HB 8053

Sci-Mat

June 70

Development of a New Process for the Ignition of
Sinter Mixes and Its Application, by A. Shigemo,
et al.

JAPANESE, per, Tetsu-to-Hagane, Vol 55, No 11,
Lecture 49, 1969, p S439.

HB 8092

Sci-Mat
June 70

Use of Fine Materials in (Iron-Ore) Sintering,
Part I., by A. Morita, et al.

JAPANESE, per, Tetsu-to-Hagane, Vol 55, No 11,
Lecture 50, 1969, p S440.

HB 8093

Sci-Mat

June 70

Oxidation of Liquid Iron with Calcium,
by S. Kobayashi,
JAPANESE, par. Tetsu-to-Hagane, Vol 55, No 11, 1969,
Lecture 86.
HB 8096

Sci/Mat
May 70

Scrap Charges in Basic Oxygen LD Process Increased
by Oxy-Fuel Blowing, by S. Yamamoto, K. Shiro.
JAPANESE, pat, Tetsu-to-Hagane, Vol 55, No 11,
Lecture 97, 1969, p 9487.
HB 7504

Sci-Mat
June 70

Behavior of Nitrogen During Tapping. Part I., by
M. Ishiguro, N. Okubo,
JAPANESE, per, Tetsu-to-Hagane, Vol 55, No 11,
lecture 102, 1969, p S492.
HB 8101

Sci-Mat
June 70

Variation of Temperature of Molten Steel in
Continuous Casting, by E. Kaito, et al.
JAPANESE, per, Watanabe Magazine, Vol 55, No 11,
1969, Lecture 105, p 495
RB 7989

sci/materials
feb 70

402,704

MORI, H. and others. Macroinclusions in continuously cast (steel) billets.

Tetsu-to-Hagane 55(11) Pap. 108, S498 (1969)
(CRL/T. 4174x)

Experiments with a Sliding Nozzle, by
H. Nakagawa,
JAPANESE, per. Tetsu-to-Hagane, Vol 55,
No 11, 1969, Lecture 110, p S 500.
HB 8104

Sci/Mat
Sep 70

Refractories for Sliding Nozzles [on Teeming
Ladles]. Part II of Development of a Sliding
Nozzle [for Teeming Ladles]., by H. Ohniwa,
and K. Hirabushi,
JAPANESE, per. Tetsu-to-Hagane, Vol 55, No 11,
Lecture 111, 1969, p S111
HB 8431

A Model Experiment on Teeming Stream Turbulence,
Part III of 'Development of a Sliding Nozzle'
[for Teeming Ladles]., by M. Urabe,
JAPANESE, per. Tetsu-to-Hagane, Vol 55, No 11,
Lecture 112, 1969, p S112.
HB 8432

Behavior of Oxygen and Oxide Inclusions During D-H
Degassing of Steel, by K. Marita,
JAPANESE, par. Tetsu-to-Hagane, Vol 55, No 11, 1969,
Lecture 118.
HB 8119

Sci/Mat
May 70

Internal Structure of Stainless Steel Ingots Contain-
ing Different Amounts of Nitrogen, Part I of Study
of the Solidification of High Alloy Steels,
by S. Makiwara,
JAPANESE, per. Tetsu-to-Hagane, Vol 55, No 11,
1969, Lecture 125.
HB 8109

Sci/Mat
May 70

Primary Crystals in Stainless Steel Ingots,
Part II of 'Study of the Solidification of
High-Alloy Steels', by S. Maekawa,
JAPANESE, PER. Tetsu-to-Hagane, Vol 55,
No 11, 1969, Lecture 126, p S 516.
HB 8110

Sci/Mat
Sep 70

Effect of Sulfur on the Solidification of
Rimming Steel, by M. Doi,
JAPANESE, per. Tetsu-to-Hagane, Vol 55, No 11,
1969, Lectures 128, 129, & 130, pp S 518,
S 519, S 520.
HB 8111

Sci/Mat
Sep 70

On the Products of Deoxidation [of Steel]
with Aluminum, by K. Sano,
JAPANESE, per. Tetsu-to-Hagane, Vol 55,
No 11, 1969, Lecture 133, P S 523.
HB 8113

Sci/Mat
Sep 70

Process of Dissolution of Deoxidizers in Liquid Iron
and Mechanism of Formation of Oxide Inclusions,
by K. Sano,
JAPANESE, per. Tetsu-to-Hagane, Vol 55, No 11,
1969, Lecture 134.
HB 8114

Sci/Mat
May 70

Composition of Ingot Scums and Oxide Inclusions
in Bottom-Poured Plain Carbon Steel, by

H. Nagayama.

JAPANESE, per, Tetsu To Hagane, Vol 55, No 11,
1969, Lecture 140, page S530.

HB 8285

Sci/Mat

Nov 70

Behavior of Oxide Inclusions in Top-Poured Low-Alloy Steel During Steelmaking, Part VII, of Mineral-Chemical Studies of Oxide Inclusions in Steel, by H. Magayama, JAPANESE, per. Tetsu-to-Hagane, Vol 55, No 11, 1969, Lecture 140, p S 530.
HB 8219

Sci/Mat
Sep 70

Effect of Nitrogen on the Properties of
Cold Work Die Steels, by K. Kusaka,
JAPANESE, per. Tetsu-to-Hagane, Vol 55, No 11,
1969, Lecture 156, p S 546.
HB 8167

Sci/Mat
Sep 70

Effect of Sulfur on the Fatigue Life of
Bearing Steels, by T. Arakawa ,
JAPANESE, per. Tetsu-to-Hagane, Vol 55,
No 11, 1969, Lecture 160, p S 550.
HB 8215

Sci/Mat
Sep 70

Creep Rupture Properties of 18% Ni, 8% Ni,
18% Cr, 10% Ni, Ti; and 16% Cr, 13% Ni,
3% Mo Steel for Boiler Tubes, by
S. Yoshida,
JAPANESE, per. Tetsu-to-Hagane Vol 55,
No 11, 1969, Lecture 168, p S 558.
HB 7791

Sci/Mat
Sep 70

Effect of Atomic Ratio of Ti/(Ti+Cb) on the Creep
Rapture Strength of Type 304 Stainless Steel, by
T. Shinoda, R. Tanaka.
JAPANESE, per, Tetsu-to-Hagane, Vol 55, No 11,
Lecture 169, 1969, p S559.
HB 7790

Sci-Mat
June 70

3

Effect of Cold Working on the Creep
Properties of Type 316 Stainless Steel,
by T. Furuta,
JAPANESE, per. Tetsu-to-Hagane, Vol 55,
No 11, 1969, Lecture 170, p S 560.
HB 8012

Sci/Mat
Sep 70

Effect of Precipitation Hardening on the
High-Temperature Strength of 18% Cr, 12%
Ni, 3% Mo Nitrogen-Alloyed Steel,
by Y. Kawabe and R. Nakagawa,
JAPANESE, per. Tetsu-to-Hagane, Vol 55,
No 11, 1969, Lecture 171, p S 561.
HB 8214

Sci/Mat
Sep 70

Effect of Very Small Amounts of Titanium
and Columbium Upon the Creep Rupture
Strength of Austenitic High-Alloy Steels,
by T. Mimino,
JAPANESE, per. Tatsu-to-Hagane, Vol 55,
No 11, 1969, Lecture 174, p S 564.
HB 8213

Sci/Mat
Sep 70

Effects of Characteristics of Supersonic Jet
in the Operations of Oxygen Top Blowing Con-
verter, by S. Ito and I. Much,
JAPANESE, per. Tetsu-to-Hagane, Vol 55, Nov.,
1969, pp 164-175.
BISI 8664

Thermal Convection During the Freezing of
Killed Steel, by T. Miyagawa, et al.,
JAPANESE, per. Tetsu-to-Hagane, Vol 55, No 11,
1969, pp 338-341.
BISI 7890

Sci/Mat
Apr 70

405,805

Effect of Various Operating Conditions in L/D
Convertors, by S. Asai, I. Muchi.
JAPANESE, per, Tetsu-to-Hagane, Vol 55, No 12,
1969, pp 1030-1040.
BISI 8288

Sci-Mat
Jul 70

Degradation of Sintered Ore During Reduction,
by K. Sugahara and K. Sato,
JAPANESE, per. Tetsu-to-Hagane, Vol 55, Nov.,
1969, pp 1107-1118.

BISI

8718

Sep 71

Absorption Rates of Blown Bubbles in Molten
Metal, by K. Mori,
JAPANESE, per. Tetsu-to-Hagane, Vol 55, Nov.,
1969, pp 1142-1151,
BISI 8672

June 71

Determination of Sulphides in Steel by the
Electrolysis is Method, by S. Mackawa and
Y. Shiga,
JAPANESE, per. Tetsu-to-Hagane, Vol 55, No 13,
1969, pp 1263-1269.
BISI 8293

Jun 71

H. Hara

Reduction of Iron-Ore Pellets in Hydrogen at
High Temperatures. TETSU TO HAGANE, Vol. 55,
No. 14, 1969, pp. 1297-1311.
HB 8909

Feb 73